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(54) **PERSONAL MULTIFUNCTION WRIST-DEVICE**

(57) The invention discloses a wrist-device which comprises a first module (1) such as a personal computer and a second module (2) consisting of a mobile telephone or a wireless telephone terminal which are coupled by means of elements (15) in a bracelet configuration for holding the device to the forearm of the user, and wherein windows (12) are provided in said modules for the passage of electronic connection buses (13) between said modules (1 and 2).

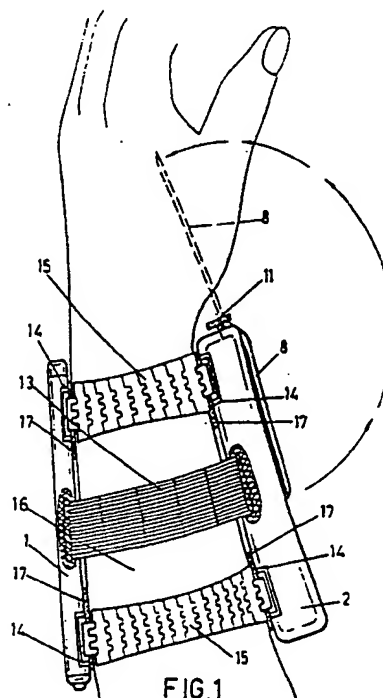


FIG.1

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Description

OBJECT OF THE INVENTION

The present invention, as expressed in the statement of this description, refers to a personal multifunction wrist-device, which is based on the combination of three elements of daily use, and which are necessary for specific persons, the elements of which are a watch, a personal computer and a mobile telephone or wireless telephone terminal.

These three elements are associated in such a manner that two of said elements form a single module, such as the watch and the personal computer, while the other, corresponding to the telephone or terminal, forms an independent module, though both modules may be associated and constitute in any of the cases, a wrist-device which is applicable on the forearm of the user so as to form a single assembly to be made use of at any moment and in any place, offering the user, simply and comfortably, any of the functions provided by these three elements.

BACKGROUND OF THE INVENTION

It is very common at present that specific persons necessarily use or require for their work, the use of a personal computer, of a mobile telephone and, of course, of a watch, the three elements of which are uncomfortable to carry continuously, especially since they form independent bodies.

In such circumstances, there are specific moments and places when the function or use of one of those elements is necessary, being sometimes impossible, since the user may have left the personal computer or even the mobile telephone in, for example, his own car or in the office, when he is meeting another person or is in a specific place, other than his car or his office.

DESCRIPTION OF THE INVENTION

The device of the invention may be said to constitute a personal multifunction wrist-device means which allows the user to carry permanently with him the personal computer, the watch and the telephone or the telephone terminal, and to make use of any of the same when and where required.

In this sense, the device of the invention is based on the combination of the three previously referred elements, which form an assembly which in bracelet configuration is placed on the forearm/wrist of the user, the module which forms the computer together with its display remaining on the upper part, including the watch, and the module which forms the telephone, remaining on the lower side, all the above in such a way that the display of the computer visualizes, not only the functions of the same, but also that of the watch, which shall be digital, as well as those of the actual telephone or terminal.

These two modules which comprise the computer/watch and the actual telephone, may be coupled to the forearm/wrist of the user by means of any conventional system, as may be a chain, wristband, strap, clip, etc., the corresponding electronic connection existing between them, based, for example, on connection buses, which may be established through the actual said coupling means or else form electronic connection elements independent from the coupling means between the two said modules.

These modules, in correspondence with the side abutted on the forearm/wrist of the user, shall be equipped with elements, such as a rubber or latex layer which prevents the friction against the forearm/wrist of the user, of the hard bodies which constitute the previously indicated modules, that is to say, flexible abutment means and with smooth contact for a maximum comfort to the user.

As has been previously stated, the module which constitutes the computer/watch, comprises the corresponding display for visualizing the data offered by the computer and even the digital indicators of the hours, as well as specific functions of the actual telephone or of the telephone terminal, including, the module of the same, a folding flap with incorporated receiver, said folding flap covering the zone of the keyboard, also including an adaptor for the receivers.

The fact must be pointed out that as regards the functions of these elements, the telephone or terminal must have capabilities for increasing the functions must be pointed out, whilst the computer is equipped with a multiprogramme of selective functions in which the function of the watch may be an alarm, a warning device and a chronometer, while it may equally have the function of electronic agenda and calendar, as well as a function of basic calculator and any specific professional function in compliance with the included programme.

BRIEF DESCRIPTION OF THE DRAWINGS

To complement the description herewith offered and in order to make more comprehensible the characteristics of the invention, a set of drawings are herewith attached to this present description, based on which the innovations and advantages of the personal multifunction wrist-device, which is the object of the invention, are more easily comprehensible.

Figure 1 shows a general perspective view of the device applied on the forearm/wrist of the user, the two modules of the device being coupled by means of a type of bracelet configuration, and electronically connected by means of connection buses.

Figures 2, 3 and 4 show other such plan, longitudinal elevation and side elevation views, respectively, of the modules which constitute the computer/watch with the multifunction display.

Figures 5, 6 and 7 show other such plan, longitudinal elevation, and side elevation views of the module which constitutes the mobile telephone or wireless tele-

phone terminal.

DESCRIPTION OF THE PREFERRED EMBODIMENT

In view of said figures, it may be observed how the device of the invention is basically constituted by means of two elements or modules 1 and 2, the former of which corresponds to a computer/watch with display 3, numerical keyboard 4, keys 5 for the corresponding functions and pushbutton 6, also for specific watch functions, also including an adaptor 7 for receivers.

On its part, module 2 corresponds to a telephone or terminal and even to a folding flap 8 which covers the corresponding keyboard 9, in such a manner that the face on which the same is provided, and independent to the folding flap 8, it includes the corresponding screen 10 for talking, and hidden on the folding flap 8, the receivers, being complemented with an extendible antenna 11 on one of the lateral sides.

Both the body or module 1, as well as the body or module 2, are equipped with a window 12 for the passage of an electronic connection bus 13, which, as its own name indicates, connects both modules or elements 1 and 2 to permit the visualization of the data of the mobile telephone or of the telephone terminal 2 on the actual display 3 of body 1 on the computer.

Additionally, said two bodies or modules 1 and 2 are provided with passages 14 for coupling and attachment means 15 of both bodies or modules 1 and 2, encircling the forearm/wrist 16 of the user.

That is to say, that said elements or modules 1 and 2 which comprise the computer/watch and the telephone or terminal, may be coupled both mechanically, through the elements 15, encircling the forearm/ wrist 16 of the user, and, additionally, be electronically connected through a connection bus 13 or like system.

So that the abutment of said modules 1 and 2 on the forearm/wrist 16 of the user does not constitute any type of discomfort or injury to the same, there is provided on the actual abutment sides of said modules 1 and 2, respective elements 17 which are flexible and at the same time soft to the touch, said abutment elements 17 capable of being constituted of rubber, latex or like material.

Thus is achieved the union in one single assembly, of the elements which are necessary for daily use of specific persons, and said elements being a watch, a personal computer and a mobile telephone or a wireless telephone terminal, with the particularity that said assembly remains perfectly attached, and visually and manually available to the actual user since it is placed and attached on the forearm/wrist of the same.

Claims

1. PERSONAL MULTIFUNCTION WRIST-DEVICE, essentially characterized in that it comprises two modules (1 and 2) capable of coupling for their attachment on the forearm/wrist (16) of a user, with

the particularity that the module (1) constitutes a personal computer with a watch, while module (2) constitutes a mobile telephone or a wireless telephone terminal; having been provided that the coupling means of both modules (1 and 2) are made of elements (15) in a bracelet configuration for holding the device on the forearm/wrist (16) of the user, module (1) of the computer/watch remaining on the upper part and module (2), which constitutes the telephone or the terminal, remaining on the lower part, both modules also being equipped with windows (12) for passage of electronic connection buses (13).

2. PERSONAL MULTIFUNCTION WRIST-DEVICE, according to claim 1, characterized in that the module (1) which constitutes the personal computer/watch, comprises its corresponding display (3) for visualization of the data of the computer and of the actual watch, as well as the data of the actual telephone or terminal, also including the corresponding keyboard (4), as well as keys and push-buttons (5 and 6) for other functions, including an adaptor (7) for receivers.
3. PERSONAL MULTIFUNCTION WRIST-DEVICE, according to claim 1, characterized in that the module (2) which constitutes the telephone or terminal includes a folding flap (8) which covers the corresponding keyboard (9), said folding flap (8) comprising receiver, while externally to the same, it is equipped with the corresponding screen (10) for talking and of an extensible antenna (11).
4. PERSONAL MULTIFUNCTION WRIST-DEVICE, according to the previous claims, characterized in that both the computer/watch (1) module and the mobile telephone module or the wireless telephone terminal (2) are equipped with passages (14) for the coupling and attachment (15) elements of both modules (1 and 2) on the forearm/wrist (16) of the user.
5. PERSONAL MULTIFUNCTION WRIST-DEVICE, according to the previous claims, characterized in that on the abutment side of modules (1 and 2) on the forearm/wrist (16) of the user, flexible elements, smooth to the touch (17), have been provided, through which, the actual abutment on said forearm/wrist (16) of the user is determined.

Amended claims under Art. 19.1 PCT [RECEIVED BY INTERNATIONAL OFFICE AT 9TH SEPTEMBER 1996 (09.09.96); CLAIMS 2 AND 3 AMENDED; ANOTHERS CLAIMS WITHOUT AMENDMENTS]

1. PERSONAL MULTIFUNCTION WRIST-DEVICE, essentially characterized in that it comprises two modules (1 and 2) capable of coupling

for their attachment on the forearm/wrist (16) of a user, with the particularity that the module (1) constitutes a personal computer with a watch, while module (2) constitutes a mobile telephone or a wireless telephone terminal; having been provided that the coupling means of both modules (1 and 2) are made of elements (15) in a bracelet configuration for holding the device on the forearm/wrist (16) of the user, module (1) of the computer/watch remaining on the upper part and module (2), which constitutes the telephone or the terminal, remaining on the lower part, both modules also being equipped with windows (12) for passage of electronic connection buses (13).

2. PERSONAL MULTIFUNCTION WRIST-DEVICE, according to claim 1, of the type in which the module (1) which constitutes the computer, includes a display (3), a keyboard (4) for functions, keys and pushbuttons (5 and 6) for other functions, and an adaptor (7) for receivers, characterized in that said visualization display (3) is pertinently connected so as to achieve the presentation, both of the computer data and of the telephone or terminal.

3. PERSONAL MULTIFUNCTION WRIST-DEVICE, according to claim 1, of the type in which module (2) which constitutes the telephone or terminal, includes a folding flap (8), for covering the corresponding keyboard (9), with a receiver (microphone) equipped with the corresponding screen (10) for talking (microphone) and with an extendible antenna (11), characterized in that said flap (8) and receiver (microphone), is optimately found placed and pertinately spaced so as to make possible the correct use of the telephone or terminal without requiring the separation of the device from the wrist of the user.

4. PERSONAL MULTIFUNCTION WRIST-DEVICE, according to the previous claims, characterized in that both the computer/watch (1) module and the mobile telephone module or the wireless telephone terminal (2) are equipped with passages (14) for the coupling and attachment (15) elements of both modules (1 and 2) on the forearm/wrist (16) of the user.

5. PERSONAL MULTIFUNCTION WRIST-DEVICE, according to the previous claims, characterized in that on the abutment side of modules (1 and 2) on the forearm/wrist (16) of the user, flexible elements, smooth to the touch (17), have been provided, through which, the actual abutment on said forearm/wrist (16) of the user is determined.

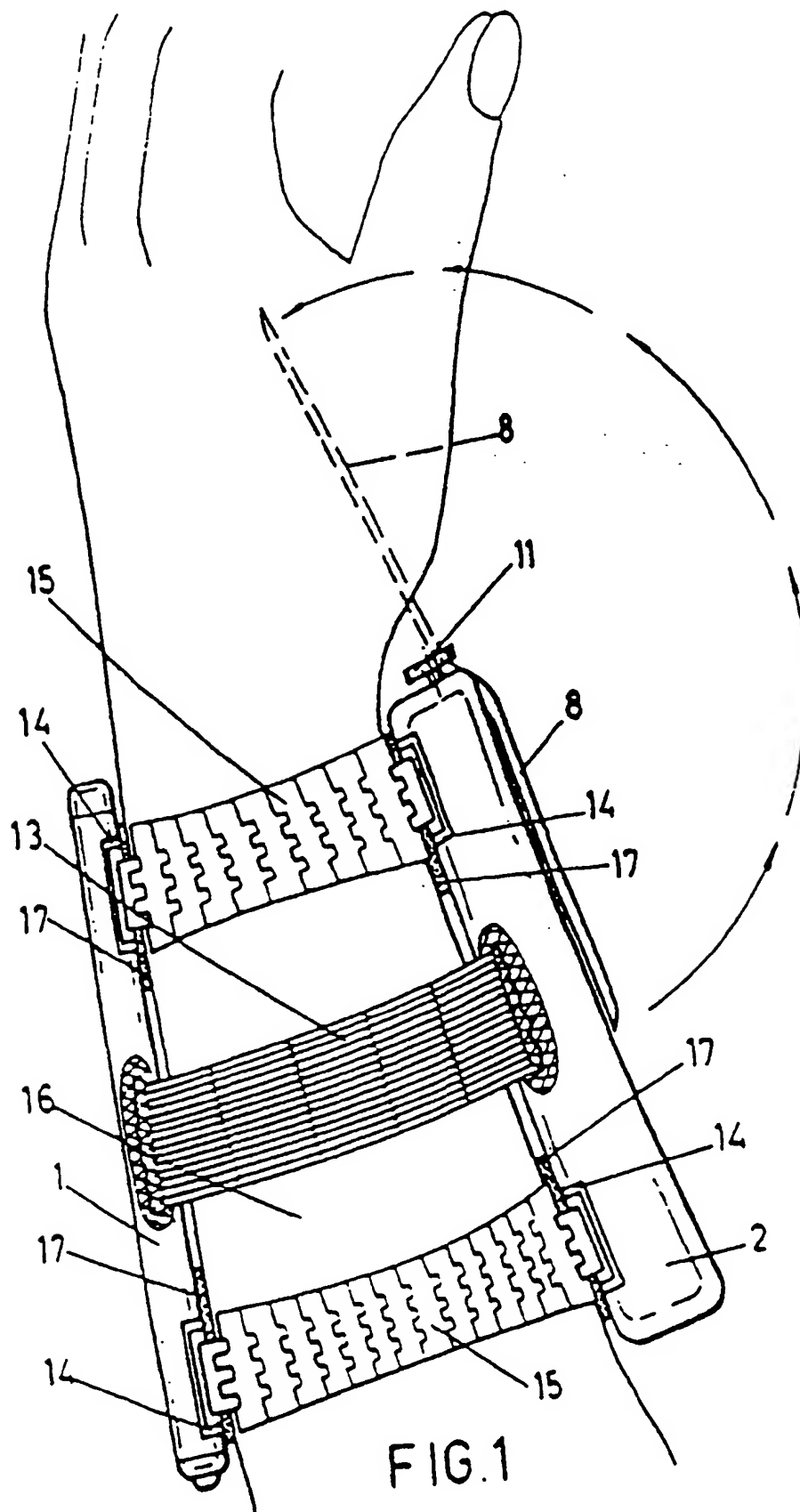


FIG.1

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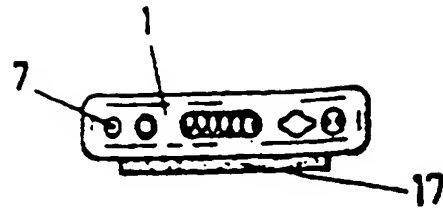


FIG. 4

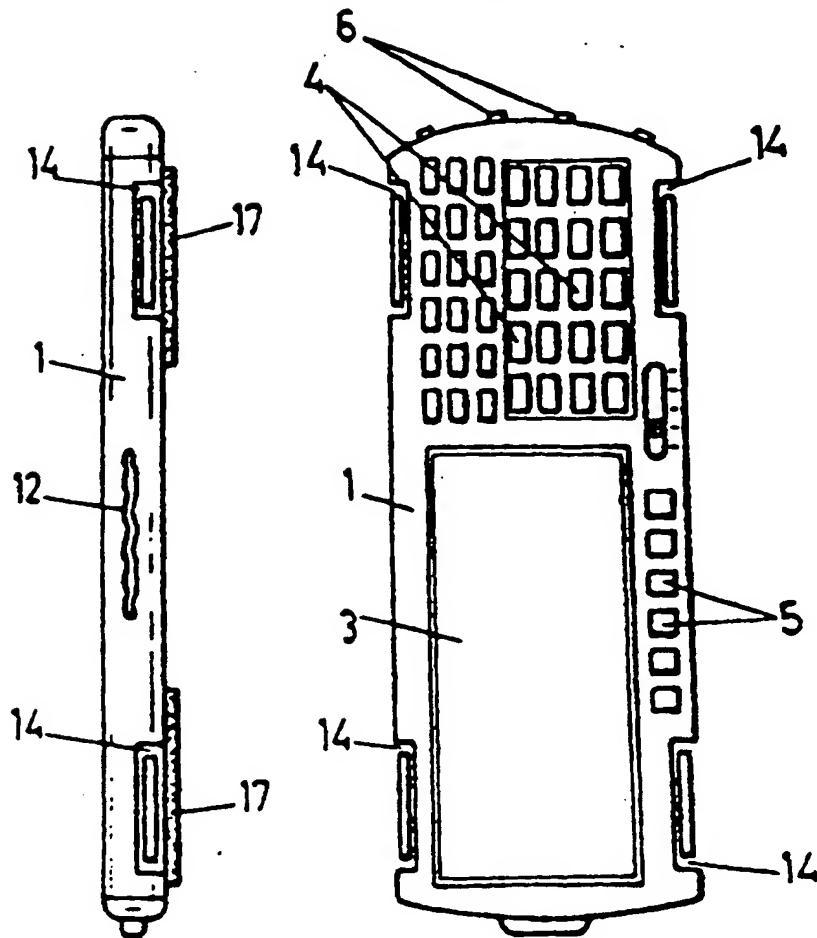


FIG. 3

FIG. 2

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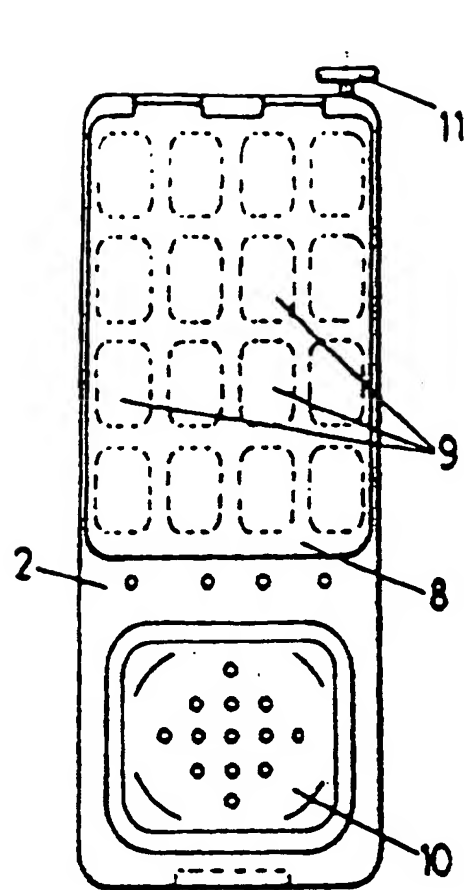


FIG. 5

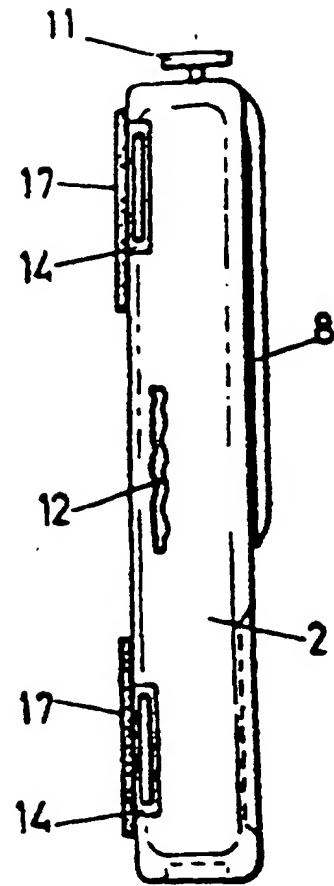


FIG. 6

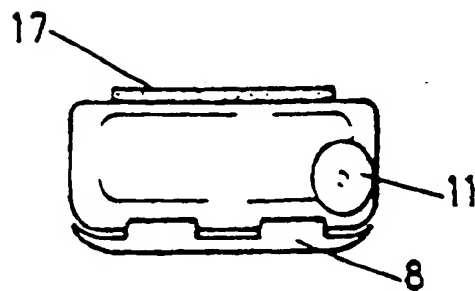


FIG. 7

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INTERNATIONAL SEARCH REPORT

International application No.

PCT/ES 96/00084

A. CLASSIFICATION OF SUBJECT MATTER		
IPC ⁶ H04M 1/03, G06F 15/02, H04M 11/00		
According to International Patent Classification (IPC) or to both national classification and IPC		
B. FIELDS SEARCHED		
Minimum documentation searched (classification system followed by classification symbols)		
IPC ⁶ H 04M, G06F		
Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched		
Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)		
C. DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y A	US-4 586 827-A (HIRSCH et al) 06.05.86 see column 2, line 23 - column 3, line 33; column 3, line 61 - column 8, line 10; figures 1-9	1-3 4
Y	EP-602 828-A (AT & T) 22.06.94 see abstract; column 1, line 9 - column 3, line 24; column 3, line 55 - column 5, line 38; column 6, line 12 - line 53; claims 1,3-6; figures 1,2,4	1-3
A	WO-93/16550-A (BELL ATLANTIC NETWORK SERVICES) 19.08.93 see abstract; page 10, line 5 - page 12, line 2; page 13, line 1 - page 19, line 3; page 25, line 3 - line 18; claims 1-4, 6-8, 10-12, 24, 25; figures 1-5	1-3
A	US-4 746 043-A (BOOKER) 24.05.88 see the whole document	1,5
A	WO-91/07836-A (MOTOROLA) 30.05.91 see abstract; page 4, line 4 - line 19; figures 1-3	3
<input checked="" type="checkbox"/> Further documents are listed in the continuation of Box C. <input checked="" type="checkbox"/> See patent family annex.		
* Special categories of cited documents: "A" document defining the general state of the art which is not considered to be of particular relevance "E" earlier document but published on or after the international filing date "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reasons (as specified) "O" document referring to an oral disclosure, use, exhibition or other means "P" document published prior to the international filing date but later than the priority date claimed "T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention "X" document of particular relevance: the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone "Y" document of particular relevance: the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art "&" document member of the same patent family		
Date of the actual completion of the international search 5 July 1996 (05.07.96)		Date of mailing of the international search report 11 July 1996 (11.07.96)
Name and mailing address of the ISA/ S.P.T.O. Facsimile No.		Authorized officer Telephone No.

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INTERNATIONAL SEARCH REPORT

International application No.

PCT/ES 96/00084

C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	PATENT ABSTRACTS OF JAPAN vol. 95, No 003 & JP-07 079278-A (YOSHIMORI KATOU) 20.03.95 see abstract	1